Docket: 71580 US02 PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of:

Serial No.:	10/772,121	Group Art Unit:	1796
Filed:	February 4, 2004	Examiner:	P. Szekely

For: POLYMER BLENDS

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF

This is an appeal from the final rejection of the Examiner dated July 3, 2007, rejecting claims 1, 3-33, and 68-71. This Brief is accompanied by the requisite fee set forth in 37 C.F.R. § 41.20(b)(2).

REAL PARTY IN INTEREST

The real party in interest is Eastman Chemical Company.

RELATED APPEALS AND INTERFERENCES

There are no other prior or pending appeals, interferences, or judicial proceedings known to Appellants, Appellants' legal representative, or assignee that may be related to, directly affect or be directly affected by, or have a bearing on the Board's decision in the pending appeal.

STATUS OF CLAIMS

Claims 1, 3-33, and 68-72 are pending in the application. Of these, claims 1, 3-33, and 68-71 stand rejected and are under appeal. Claim 72 is allowed.

Claims 2 and 34-67 have been canceled.

A copy of the claims involved in the appeal is attached in the Claims Appendix.

STATUS OF AMENDMENTS

There are no amendments filed subsequent to final rejection.

SUMMARY OF CLAIMED SUBJECT MATTER

There are four independent claims involved in the appeal.

Independent Claim 1

Independent claim 1 relates to a polymer blend comprising a mixture of:

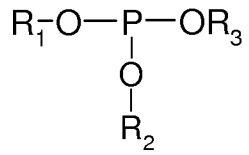
(A) at least one polyester prepared by the reaction of at least one diol with at least one dicarboxylic acid or dialkyl ester thereof in the presence of a metallic catalyst;

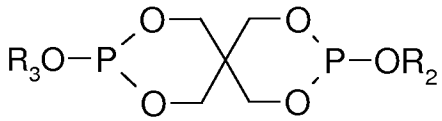
(B) at least one phosphorus-containing compound;

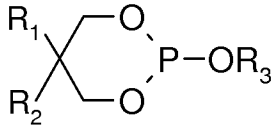
(C) at least one hindered amine light stabilizer; and

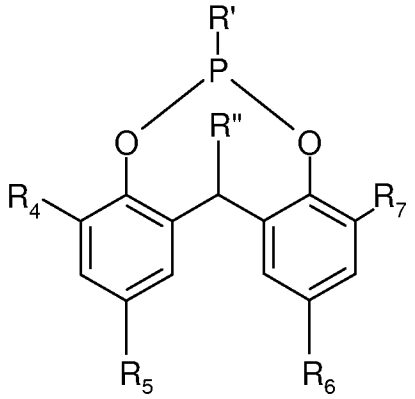
(D) at least one polycarbonate. Paragraphs [0005] and [0015].

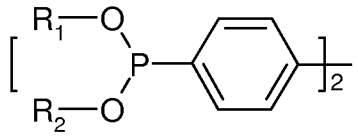
The phosphorus-containing compound (B) is selected from the formulas (1) - (6):

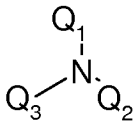
(1) 

(2) 

(3) 

(4) 

(5) 

(6) 

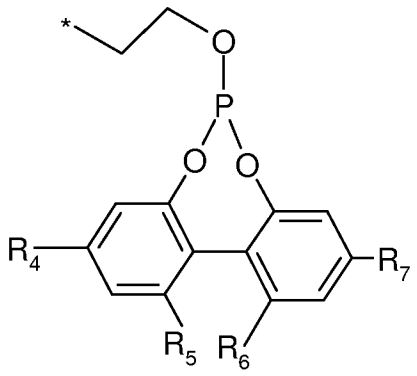
wherein

R_1, R_2 and R_3 are independently selected from the group consisting of C_1-C_{22}-alkyl, substituted C_1-C_{22}-alkyl, C_3-C_8-cycloalkyl, substituted C_3-C_8-cycloalkyl, and heteroaryl;

R' is selected from the group consisting of halogen and OR_1;

R", R_4, R_5 R_6, and R_7 are independently selected from the group consisting of hydrogen, C_1-C_{22}-alkyl, substituted C_1-C_{22}-alkyl, C_3-C_8-cycloalkyl, substituted C_3-C_8-cycloalkyl, heteroaryl, and aryl; and

each Q_1, Q_2 and Q_3 group independently is radical A, wherein radical A has the following structure:

Radical A = 

Paragraph [0006].

Independent Claim 5

Independent claim 5 relates to a polymer blend comprising:

(A) at least one polyester comprising:

(1) diacid residues comprising at least 50 mole percent of residue of a diacid selected from the group consisting of 1,4-cyclohexanedicarboxylic acid, terephthalic acid and isophthalic acid or a mixture thereof; and

(2) diol residues comprising at least 50 mole percent of ethylene glycol residues, cyclohexanedimethanol residues, or a mixture thereof;

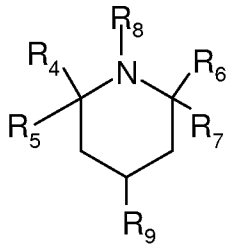
based on a total of 100 mole percent of diacid residues and a total of 100 mole percent of diol residues;

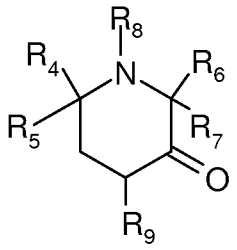
(B) 0.01 to 0.5 weight percent of at least one phosphorus-containing compound based on the total weight of the blend;

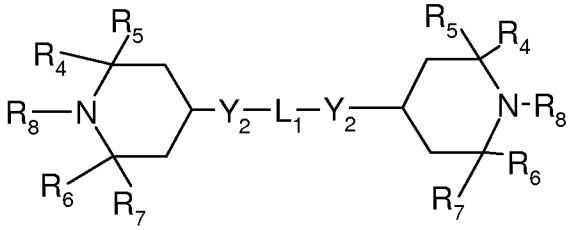
(C) 0.01 to 1.0 weight percent of at least one hindered amine light stabilizer based on the total weight of the blend; and

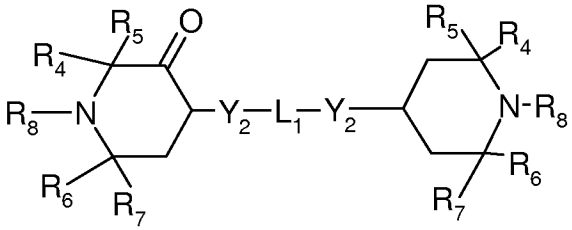
(D) at least one polycarbonate. Paragraphs [0005], [0007], and [0015].

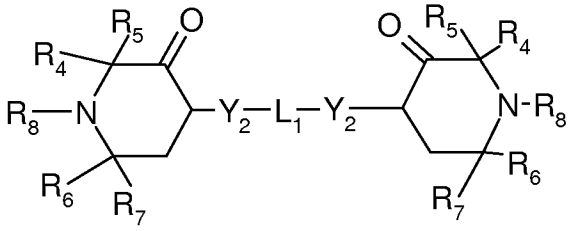
The hindered amine light stabilizer (C) is selected from the following formulas (7) - (20):

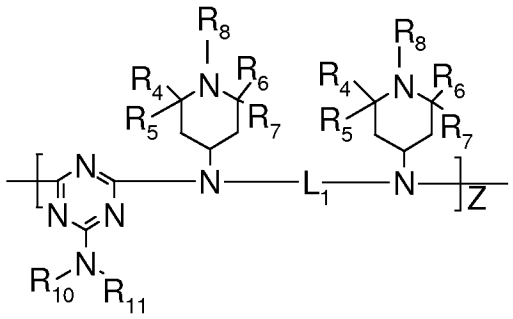
(7) 

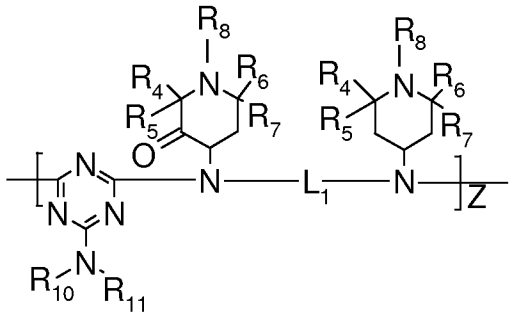
(8) 

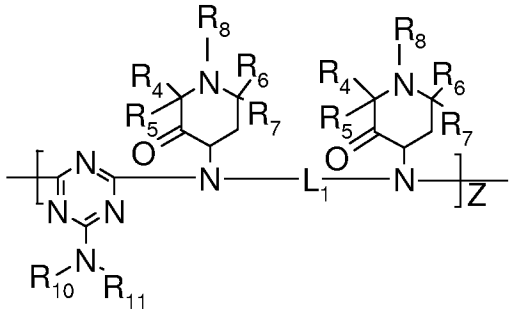
(9) 

(10) 

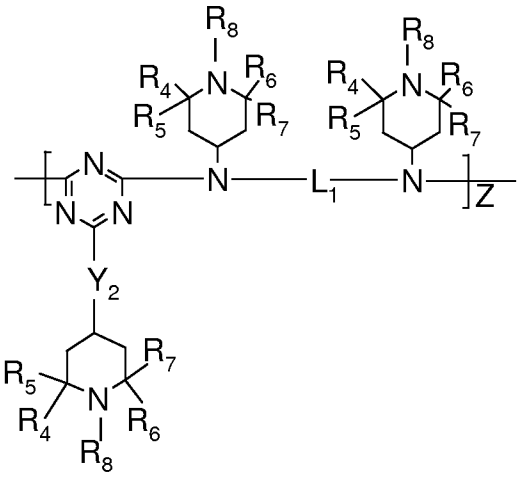
(11) 

(12) 

(13) 

(14) 

(15)



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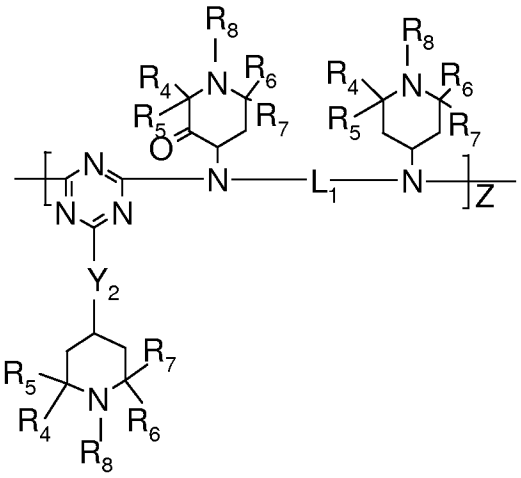

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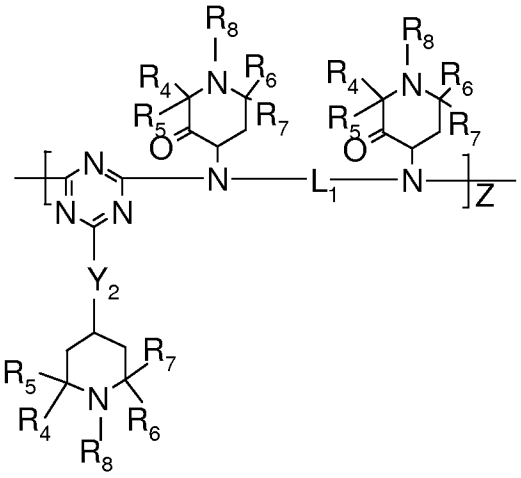
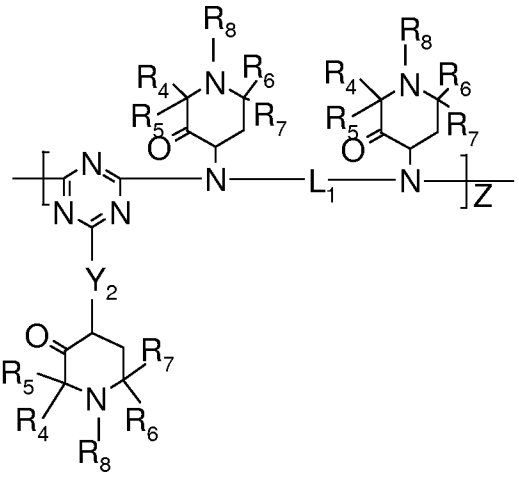
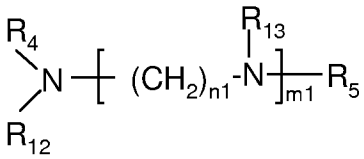
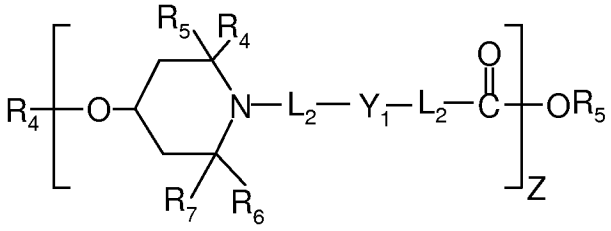


(18) 

(19) 

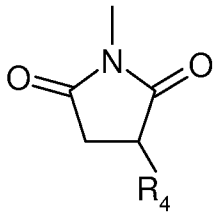
(20) 

wherein

R_4, R_5 R_6, and R_7 are independently selected from the group consisting of hydrogen, C_1-C_{22}-alkyl, substituted C_1-C_{22}-alkyl, C_3-C_8-cycloalkyl, substituted C_3-C_8-cycloalkyl, heteroaryl, and aryl;

R_8 is selected from the group consisting of hydrogen, -OR_6, C_1-C_{22}-alkyl, substituted C_1-C_{22}-alkyl, C_3-C_8-cycloalkyl, and substituted C_3-C_8-cycloalkyl;

R_9 is selected from the group consisting of hydrogen, C_1-C_{22}-alkyl, substituted C_1-C_{22}-alkyl, C_3-C_8-cycloalkyl, substituted C_3-C_8-cycloalkyl, heteroaryl, aryl, -Y_1-R_4, and a succinimido group having the formula:



R_{10} and R_{11} are independently selected from the group consisting of hydrogen, C_1-C_{22}-alkyl, substituted C_1-C_{22}-alkyl, C_3-C_8-cycloalkyl, and substituted C_3-C_8-cycloalkyl; R_{10} and R_{11} collectively may represent a divalent group forming a ring with the nitrogen atom to which they are attached;

L_1 is a divalent linking group selected from the group consisting of C_2-C_{22}-alkylene, -$(CH_2CH_2$-$Y_1)_{1\text{-}3}$-CH_2CH_2-, C_3-C_8-cycloalkylene, arylene, and -CO-L_2-OC-;

L_2 is selected from the group consisting of C_1-C_{22}-alkylene, arylene, -$(CH_2CH_2$-$Y_1)_{1\text{-}3}$-CH_2CH_2-, and C_3-C_8-cycloalkylene;

Y_1 is selected from the group consisting of -OC(O)-, -NHC(O)-, -O-, -S-, and -N(R_4)-;

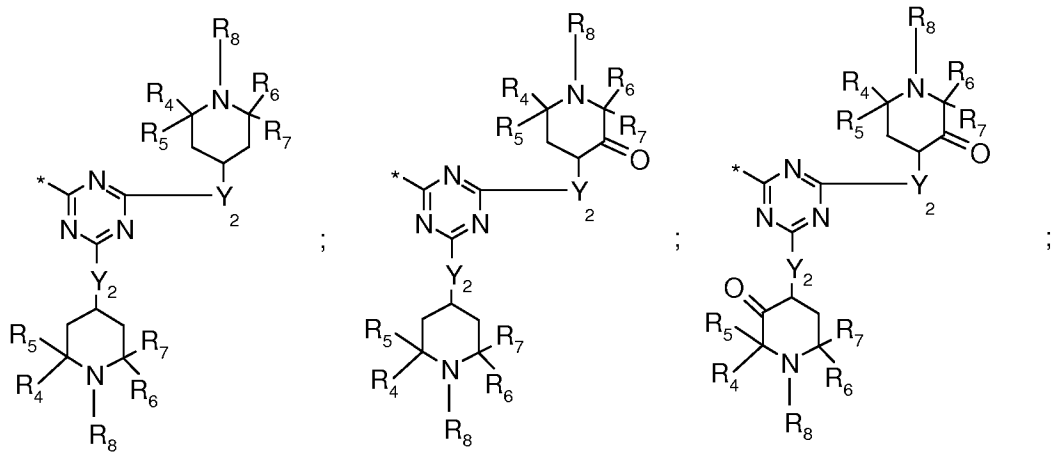
Y_2 is selected from the group consisting of -O- and -N(R_4)-;

Z is a positive integer of up to about 20;

m1 is selected from 0 to about 10;

n1 is a positive integer selected from 2 to about 12;

R_{12} and R_{13} are independently selected from the group consisting of hydrogen, C_1-C_{22}-alkyl, substituted C_1-C_{22}-alkyl, heteroaryl, aryl, and radical B wherein radical B is selected from the following structures:



wherein * designates the position of attachment and wherein at least one of R_{12} and R_{13} is radical B. Paragraph [0006].

The phosphorus-containing compound (B) is selected from the formulas (1) - (6) as in claim 1.

Independent Claim 14

Independent claim 14 relates to a polymer blend comprising a mixture of the following:

(A) at least one polyester having an inherent viscosity of about 0.4 to 1.2 dL/g measured at 25°C in a 60/40 ratio by weight of phenol/tetrachloroethane and comprising:

(1) diacid residues comprising at least about 50 mole percent of residue of a diacid selected from the group consisting of 1,4-cyclohexanedicarboxylic acid, terephthalic acid and isophthalic acid or a mixture thereof; and

(2) diol residues comprising at least about 50 mole percent of ethylene glycol residues, cyclohexanedimethanol residues, or a mixture thereof;

(B) about 0.1 to 0.5 weight percent of at least one phosphorus-containing compound based on the total weight of the composition;

(C) about 0.1 to 1.0 weight percent of at least one hindered amine light stabilizer based on the total weight of the composition; and

(D) at least one polycarbonate. Paragraphs [0005], [0007], and [0015].

The hindered amine light stabilizer (C) is selected from the formulas (12) - (19) as in claim 5.

The phosphorus-containing compound is selected from the formulas (1) - (6) as in claim 1.

Independent Claim 28

Independent claim 28 relates to a polymer blend comprising a mixture of:

(A) at least one polyester having an inherent viscosity of about 0.4 to 1.2 dL/g measured at 25°C in a 60/40 ratio by weight of phenol/tetrachloroethane and comprises:

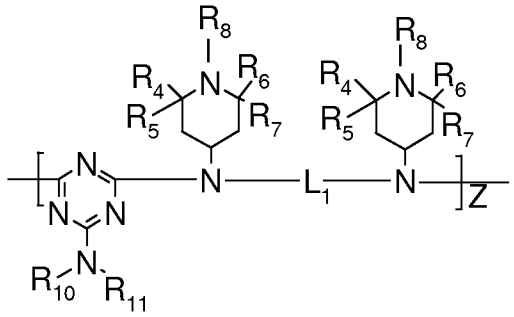
(1) diacid residues comprising at least about 50 mole percent of terephthalic acid residues, cyclohexanedicarboxylic acid residues or a mixture thereof; and

(2) diol residues comprising at least about 50 mole percent of ethylene glycol residues, cyclohexanedimethanol residues, or a mixture thereof;

wherein the total mole percentages of diacid residues is 100 mole percent and the total mole percentages of diol residues is 100 mole percent; and

(B) about 0.1 to 0.5 weight percent of at least one phosphorus-containing compound selected from the group of bis(2,4-di-t-butylphenyl)pentaerythritol diphosphite, distearyl pentaerythritol diphosphite, and bis-(2,4-dicumylphenyl) pentaerythritol diphosphite, based on the total weight of the blend;

(C) about 0.1 to 1.0 weight percent of at least one hindered amine light stabilizer based on the total weight of the composition having the formula:

(12) 

wherein R_4= R_5= R_6= R_7= R_8=methyl, (R_{10})(R_{11})N- collectively represent morpholino, L_1 is $C_{1\ to}$ C_6 alkylene, and Z is 1 to 6; and

(D) at least one polycarbonate. Paragraphs [0005], [0007], [0012], [0014], and [0015].

GROUND OF REJECTION TO BE REVIEWED ON APPEAL

There is only one ground of rejection to be reviewed. That ground is

1. Claims 1, 3-33, and 68-71 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Ono (US 6,727,303) or Hashimoto (US 6,780,917) in view of Pfaendner (US 5,859,073) or Hudson (US 6,077,890), in view of Jackson (US 4,287,325), Morris (US 4,525,504), Light (US 4,578,437), Funasaki (US 4,956,407), Carico (US 4,972,015), Golder (US 5,032,631), Dickerson (US 5,656,715), Minnick (US 5,919,848), Webster (US 5,965,261), Cornell (US 6,054,551), Cobb (US 6,100,320), Jones (US 6,103,857), Aylward (US 6,187,523), Keep (US 6,277,905), Panandiker (US 6,284,845), Opalko (US 6,469,083), Moskala (US 6,551,688), Jeon (US 6,342,579), Agniel (US 2002/0045022), or Pierre (US 2003/010629).

ARGUMENT

Ground of Rejection 1

Claims 1, 3-33, and 68-71 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over a combination of 24 references. For purposes of this appeal, claim 1 is representative of the rejected group of claims.

The rejection should be reversed because it lacks one or more essential elements needed for a *prima facie* case of obviousness.

For rejections under 35 U.S.C. § 103(a), it is the Office's policy to follow *Graham v. John Deere Co.* and to perform the four factual inquiries enunciated in that decision. *MPEP* § 2141 at 2100-116 (Rev. 6, Sept. 2007). The four factual inquiries are:

(a) determining the scope and content of the prior art;

(b) ascertaining the differences between the prior art and the claims at issue;

(c) resolving the level of ordinary skill in the pertinent art; and

(d) evaluating evidence of secondary consideration.

Graham, 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966).

The rejection in this case, however, falls short of complying with the law and the Office's policy. For example, the rejection fails to set forth the difference or differences between the cited references and the rejected claims. *MPEP* § 2141.02. And the rejection fails to evaluate the evidence of unexpected results discussed in Applicants' *Second Reply and Amendment* at 28-29 (Dec. 12, 2006). *MPEP* § 2145 at 2100-164 ("Evidence pertaining to secondary considerations must be taken into account whenever present....").

In response to the above arguments, the Examiner stated that "[i]n the last three actions the examiner has pointed out what the cited references contain and where they contain the subject matter." *Final Office Action* at 2 (July 3, 2007). However, the Examiner's burden of establishing a *prima facie* case of obviousness requires more than that. It requires inquiry into all four of the factors enumerated above.

In this case, at best, the Examiner has embarked upon the first step of a multi-step process, and the Examiner is attempting to improperly shift the burden onto Appellants to do the rest. *See id.* ("Applicants have chosen not to point out what the deficiencies of the individual references are and what each reference lacks."). Because the Examiner has omitted one or more essential elements needed for a *prima facie* case of obviousness, and the rejection under 35 U.S.C. § 103(a) is improper and should be reversed.

CLAIMS APPENDIX

A copy of the claims involved in the appeal is attached in the Claims Appendix.

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.

CONCLUSION

For the foregoing reasons, the § 103 rejection in the Final Office Action should be reversed.

Respectfully submitted,

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Jan. 4, 2008
Date

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CLAIMS APPENDIX

Claim 1: A polymer blend comprising a mixture of:

(A) at least one polyester prepared by the reaction of at least one diol with at least one dicarboxylic acid or dialkyl ester thereof in the presence of a metallic catalyst;

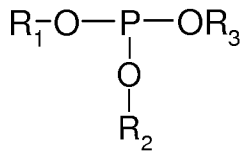
(B) at least one phosphorus-containing compound;

(C) at least one hindered amine light stabilizer; and

(D) at least one polycarbonate,

wherein the phosphorus-containing compound is selected from the formulas (1) - (6):

(1)



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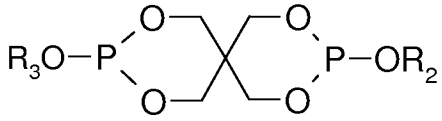

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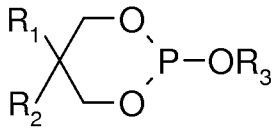
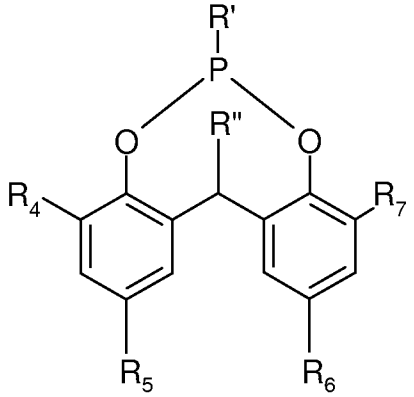
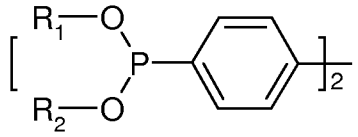
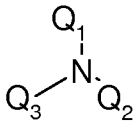


(4)



(5) 

(6) 

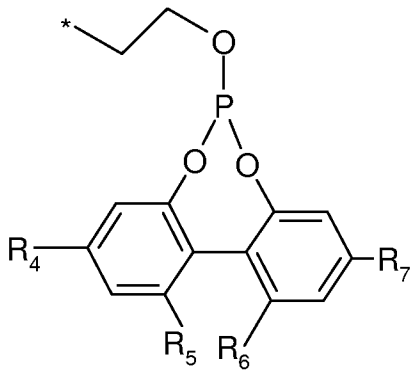
wherein

R_1, R_2 and R_3 are independently selected from the group consisting of C_1-C_{22}-alkyl, substituted C_1-C_{22}-alkyl, C_3-C_8-cycloalkyl, substituted C_3-C_8-cycloalkyl, and heteroaryl;

R' is selected from the group consisting of halogen and OR_1;

R", R_4, R_5 R_6, and R_7 are independently selected from the group consisting of hydrogen, C_1-C_{22}-alkyl, substituted C_1-C_{22}-alkyl, C_3-C_8-cycloalkyl, substituted C_3-C_8-cycloalkyl, heteroaryl, and aryl; and

each Q_1, Q_2 and Q_3 group independently is radical A, wherein radical A has the following structure:

Radical A = 

Claim 2 (canceled)

Claim 3: The polymer blend according to Claim 1 wherein the at least one polyester comprises:

(1) diacid residues comprising at least 50 mole percent of terephthalic acid residues, cyclohexanedicarboxylic acid residues or a mixture thereof; and

(2) diol residues comprising at least 50 mole percent of ethylene glycol residues, cyclohexanedimethanol residues, or a mixture thereof;

wherein the total of the diacid residues is equal to 100 mole percent and the total of the diol residues also is equal to 100 mole percent.

Claim 4: The polymer blend according to Claim 3 wherein the polyester comprises up to about 200 ppmw of Ti, Co, or Mn residues, or combinations thereof.

Claim 5: A polymer blend comprising:

(A) at least one polyester comprising:

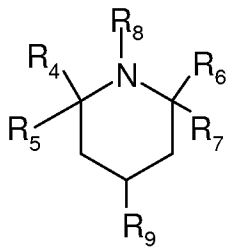
(1) diacid residues comprising at least 50 mole percent of residue of a diacid selected from the group consisting of 1,4-cyclohexanedicarboxylic acid, terephthalic acid and isophthalic acid or a mixture thereof; and

(2) diol residues comprising at least 50 mole percent of ethylene glycol residues, cyclohexanedimethanol residues, or a mixture thereof;

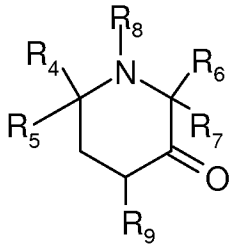
based on a total of 100 mole percent of diacid residues and a total of 100 mole percent of diol residues;

(B) 0.01 to 0.5 weight percent of at least one phosphorus-containing compound based on the total weight of the blend;

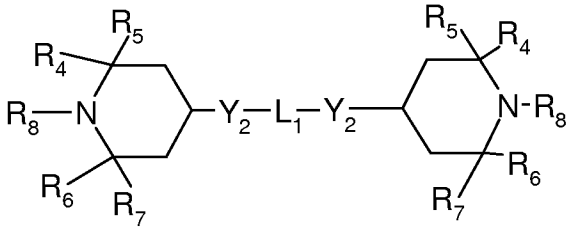
(C) 0.01 to 1.0 weight percent of at least one hindered amine light stabilizer based on the total weight of the blend, wherein the at least one hindered amine light stabilizer is selected from the following formulae:

(7) 

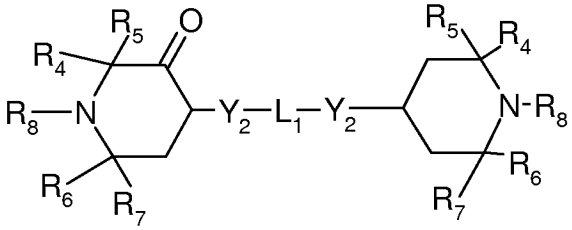
(8)



(9)



(10)



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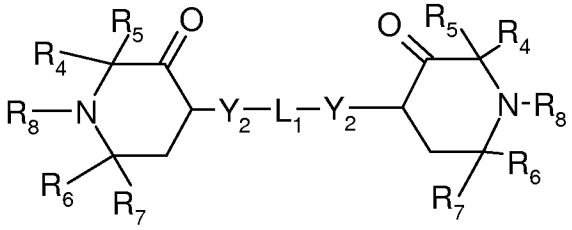

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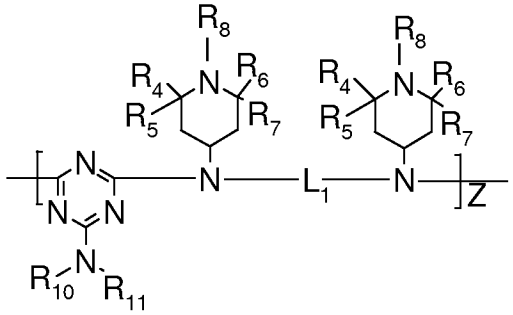

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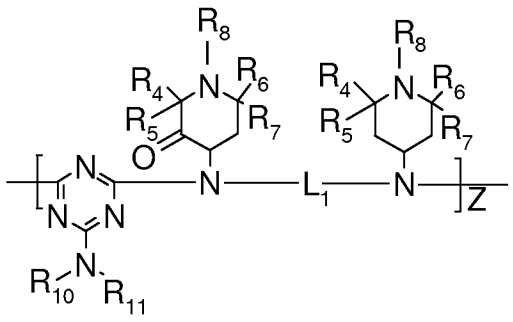

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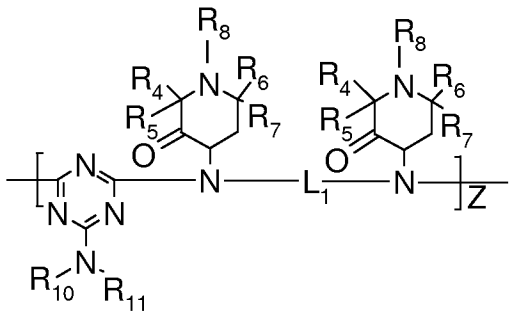

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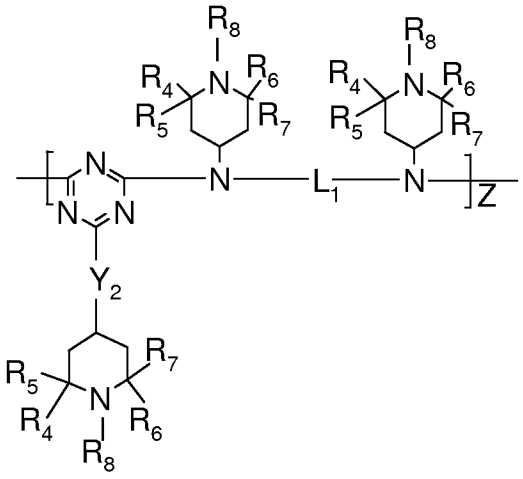

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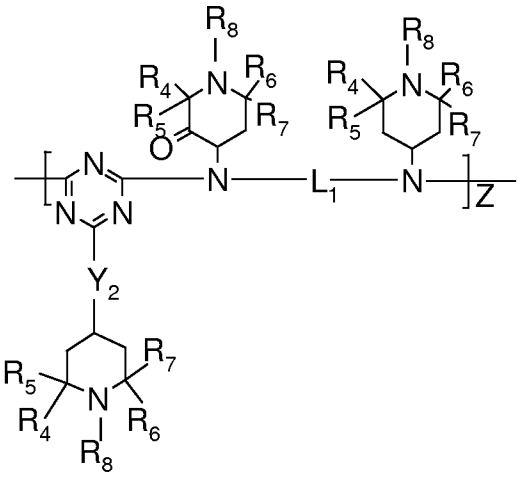

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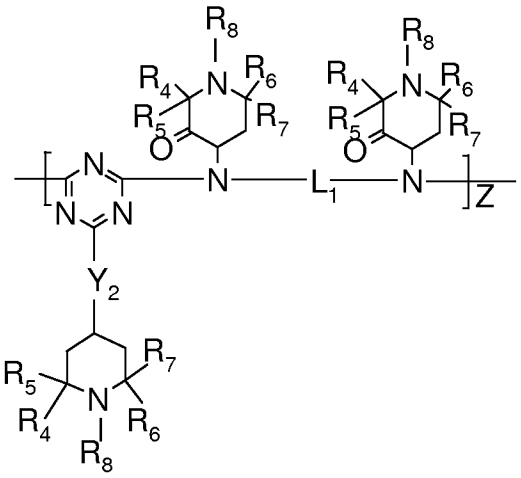

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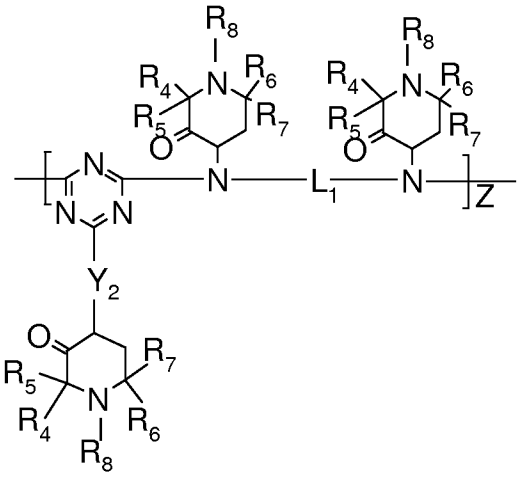
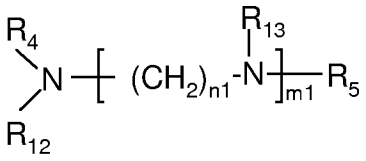
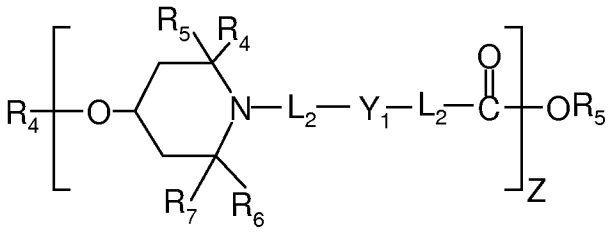


(19) 

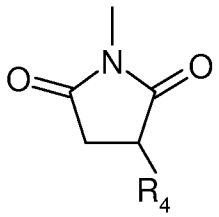
(20) 

wherein

R_4, R_5 R_6, and R_7 are independently selected from the group consisting of hydrogen, C_1-C_{22}-alkyl, substituted C_1-C_{22}-alkyl, C_3-C_8-cycloalkyl, substituted C_3-C_8-cycloalkyl, heteroaryl, and aryl;

R_8 is selected from the group consisting of hydrogen, -OR_6, C_1-C_{22}-alkyl, substituted C_1-C_{22}-alkyl, C_3-C_8-cycloalkyl, and substituted C_3-C_8-cycloalkyl;

R_9 is selected from the group consisting of hydrogen, C_1-C_{22}-alkyl, substituted C_1-C_{22}-alkyl, C_3-C_8-cycloalkyl, substituted C_3-C_8-cycloalkyl, heteroaryl, aryl, -Y_1-R_4, and a succinimido group having the formula:



R_{10} and R_{11} are independently selected from the group consisting of hydrogen, C_1-C_{22}-alkyl, substituted C_1-C_{22}-alkyl, C_3-C_8-cycloalkyl, and substituted C_3-C_8-cycloalkyl; R_{10} and R_{11} collectively may represent a divalent group forming a ring with the nitrogen atom to which they are attached;

L_1 is a divalent linking group selected from the group consisting of C_2-C_{22}-alkylene, -$(CH_2CH_2$-$Y_1)_{1\text{-}3}$-CH_2CH_2-, C_3-C_8-cycloalkylene, arylene, and -CO-L_2-OC-;

L_2 is selected from the group consisting of C_1-C_{22}-alkylene, arylene, -$(CH_2CH_2$-$Y_1)_{1\text{-}3}$-CH_2CH_2-, and C_3-C_8-cycloalkylene;

Y_1 is selected from the group consisting of -OC(O)-, -NHC(O)-, -O-, -S-, and -$N(R_4)$-;

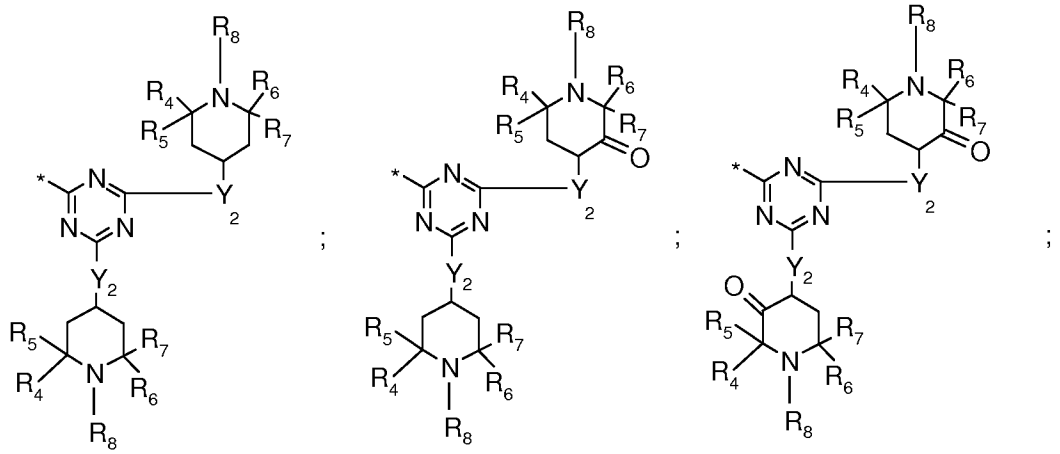
Y_2 is selected from the group consisting of -O- and -$N(R_4)$-;

Z is a positive integer of up to about 20;

m1 is selected from 0 to about 10;

n1 is a positive integer selected from 2 to about 12;

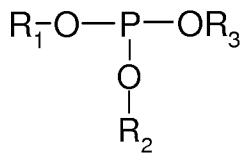
R_{12} and R_{13} are independently selected from the group consisting of hydrogen, C_1-C_{22}-alkyl, substituted C_1-C_{22}-alkyl, heteroaryl, aryl, and radical B wherein radical B is selected from the following structures:

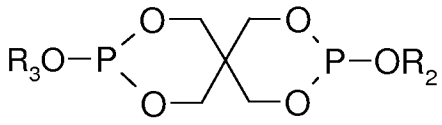


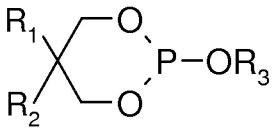
wherein * designates the position of attachment and wherein at least one of R_{12} and R_{13} is radical B; and

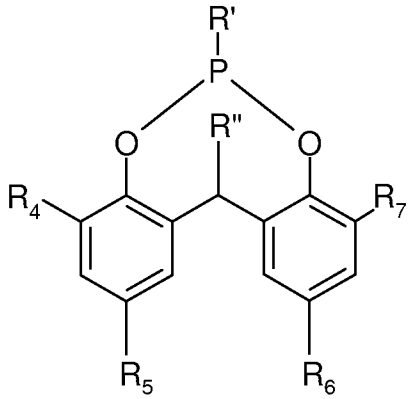
(D) at least one polycarbonate,

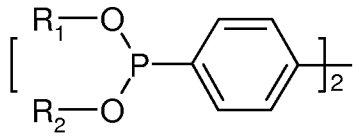
wherein the phosphorus-containing compound is selected from the formulas (1) - (6):

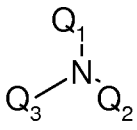
(1) 

(2) 

(3) 

(4) 

(5) 

(6) 

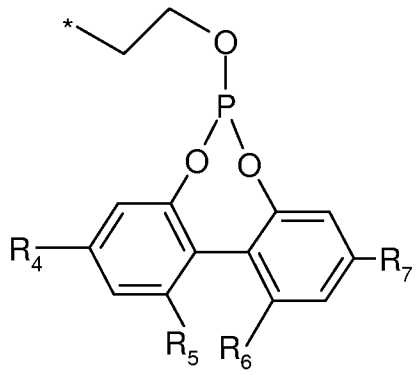
wherein

R_1, R_2 and R_3 are independently selected from the group consisting of C_1-C_{22}-alkyl, substituted C_1-C_{22}-alkyl, C_3-C_8-cycloalkyl, substituted C_3-C_8-cycloalkyl, and heteroaryl;

R' is selected from the group consisting of halogen and OR_1;

R", R_4, R_5 R_6, and R_7 are independently selected from the group consisting of hydrogen, C_1-C_{22}-alkyl, substituted C_1-C_{22}-alkyl, C_3-C_8-cycloalkyl, substituted C_3-C_8-cycloalkyl, heteroaryl, and aryl; and

each Q_1, Q_2 and Q_3 group independently is radical A, wherein radical A has the following structure:

Radical A = 

Claim 6: The polymer blend of Claim 5 wherein R_8 is hydrogen, C_1-C_{22}-alkyl, substituted C_1-C_{22}-alkyl, C_3-C_8-cycloalkyl, or substituted C_3-C_8-cycloalkyl.

Claim 7: The polymer blend of Claim 6 wherein the polyester of component (A) has an inherent viscosity of about 0.4 to 1.2 dL/g measured at 25ºC in a 60/40 ratio by weight of phenol/tetrachloroethane and comprises:

(1) diacid residues comprising about 80 to 100 mole percent of terephthalic acid residues and about 0 to 20 mole percent of isophthalic acid residues; and

(2) diol residues comprising about 40 to 100 mole percent of 1,4-cyclohexanedimethanol residues and 0 to about 60 mole percent of ethylene glycol residues and component (B) comprises 0.05 to 0.5 weight percent of at least one phosphorus-containing compound and component (C) comprises 0.05 to 1.0 weight percent of at least one hindered amine light stabilizer based on the total weight of the composition.

Claim 8: The polymer blend of Claim 7 wherein the polyester of component (A) has an inherent viscosity of about 0.4 to 0.8 dL/g measured at 25°C in a 60/40 ratio by weight of phenol/tetrachloroethane and comprises:

(1) diacid residues comprising about 80 to 100 mole percent of terephthalic acid residues and about 0 to 20 mole percent of isophthalic acid residues; and

(2) diol residues comprising about 55 to 80 mole percent of 1,4-cyclohexanedimethanol residues and about 20 to about 45 mole percent of ethylene glycol residues.

Claim 9: The polymer blend of Claim 5 wherein the polyester of component (A) has an inherent viscosity of about 0.4 to 0.8 dL/g measured at 25°C in a 60/40 ratio by weight of phenol/tetrachloroethane and comprises:

(1) diacid residues comprising about 65 to 83 mole percent of terephthalic acid residues and about 35 to 17 mole percent of isophthalic acid residues; and

(2) diol residues comprising about 80 to 100 mole percent of 1,4-cyclohexane-dimethanol residues and about 0 to about 20 mole percent of ethylene glycol residues.

Claim 10: The polymer blend of Claim 9 wherein the polyester of component (A) comprises:

(1) diacid residues comprising about 70 to 80 mole percent of terephthalic acid residues and about 30 to 20 mole percent of isophthalic acid residues; and

(2) diol residues comprising about 90 to 100 mole percent of 1,4-cyclohexanedimeth-anol residues and 0 to about 10 mole percent of ethylene glycol residues.

Claim 11: The polymer blend of Claim 5 wherein the polyester of component (A) has an inherent viscosity of about 0.4 to 1.2 dL/g measured at 25°C in a 60/40 ratio by weight of phenol/tetrachloroethane and comprises:

(1) diacid residues comprising at least about 80 mole percent of 1,4-cyclohexanedicar-boxylic acid residues; and

(2) diol residues comprising at least about 80 mole percent of 1,4-cyclohexane-dimethanol residues.

Claim 12: The polymer blend of Claim 11 wherein the polyester of component (A) comprises:

(1) diacid residues comprising about 90 to 100 mole percent of 1,4-cyclohexanedicarboxylic acid residues; and

(2) diol residues comprising about 90 to 100 mole percent of 1,4-cyclohexane-dimethanol residues.

Claim 13: The polymer blend of Claim 12 wherein the polyester of component (A) comprises:

(1) diacid residues comprising about 100 mole percent of 1,4-cyclohexanedicarboxylic acid residues; and

(2) diol residues comprising about 100 mole percent of 1,4-cyclohexanedimethanol residues.

Claim 14: A polymer blend comprising a mixture of the following:

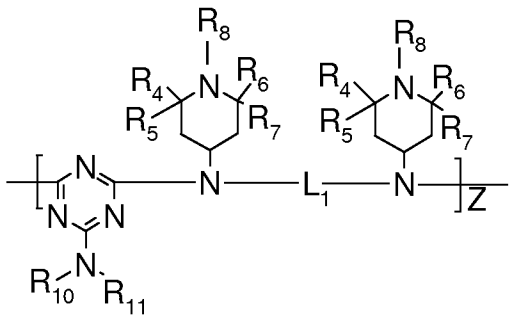
(A) at least one polyester having an inherent viscosity of about 0.4 to 1.2 dL/g measured at 25°C in a 60/40 ratio by weight of phenol/tetrachloroethane and comprising:

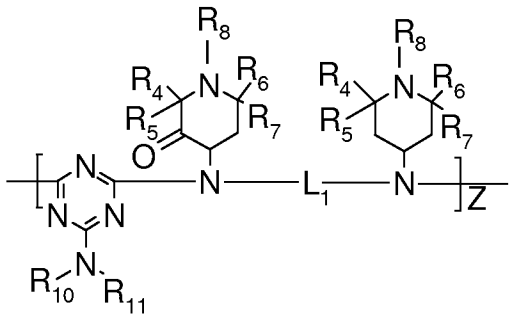
(1) diacid residues comprising at least about 50 mole percent of residue of a diacid selected from the group consisting of 1,4-cyclohexanedicarboxylic acid, terephthalic acid and isophthalic acid or a mixture thereof; and

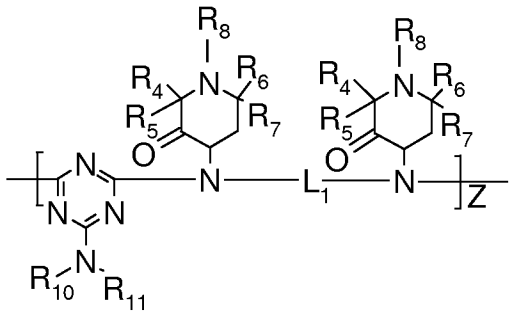
(2) diol residues comprising at least about 50 mole percent of ethylene glycol residues, cyclohexanedimethanol residues, or a mixture thereof;

(B) about 0.1 to 0.5 weight percent of at least one phosphorus-containing compound based on the total weight of the composition;

(C) about 0.1 to 1.0 weight percent of at least one hindered amine light stabilizer based on the total weight of the composition having the formulas:

(12) 

(13) 

(14) 

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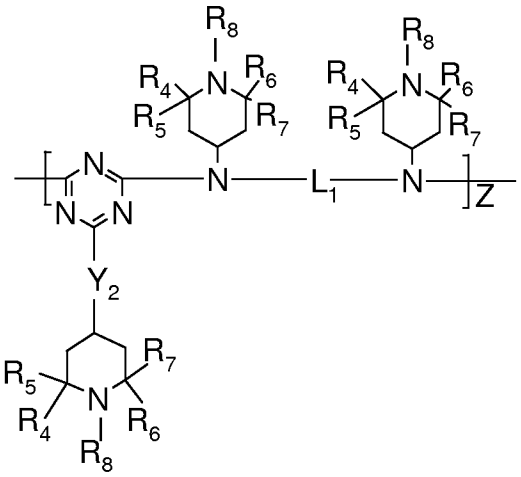

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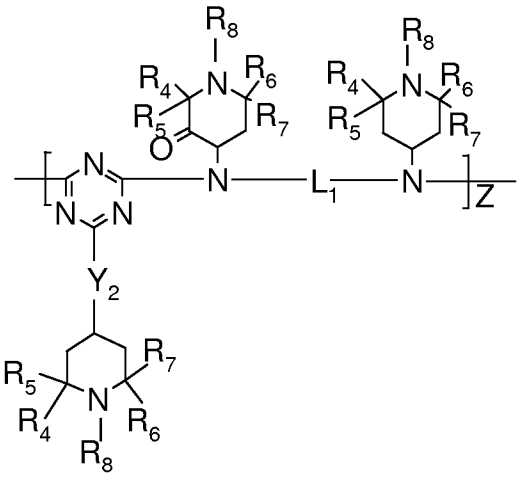

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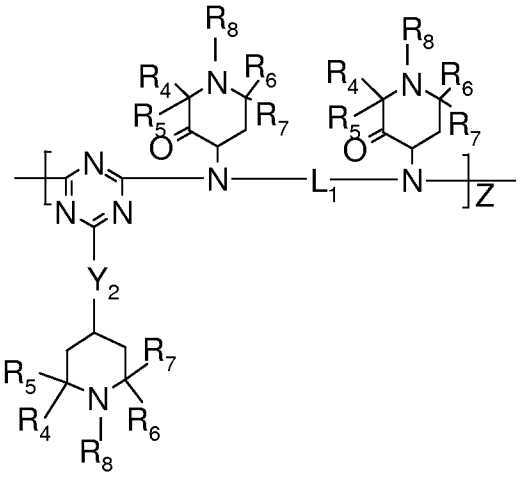
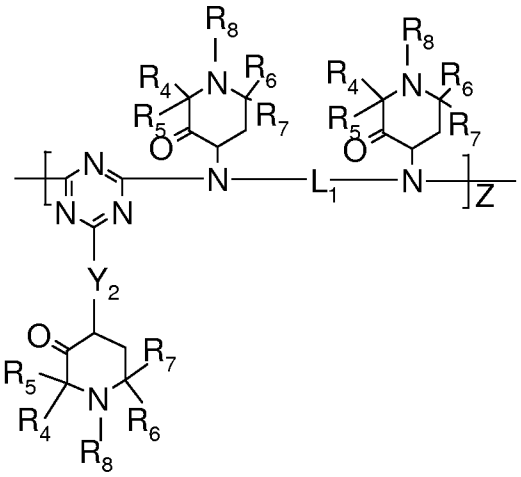
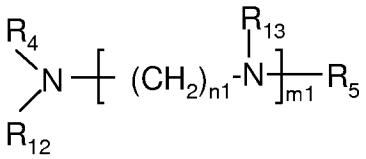


(18) 

(19) 

wherein

R_4, R_5 R_6, and R_7 are independently selected from the group consisting of hydrogen, C_1-C_{22}-alkyl, substituted C_1-C_{22}-alkyl, C_3-C_8-cycloalkyl, substituted C_3-C_8-cycloalkyl, heteroaryl, and aryl;

R_8 is selected from the group consisting of hydrogen, -OR_6, C_1-C_{22}-alkyl, substituted C_1-C_{22}-alkyl, C_3-C_8-cycloalkyl, and substituted C_3-C_8-cycloalkyl;

R_{10} and R_{11} are independently selected from the group consisting of hydrogen, C_1-C_{22}-alkyl, substituted C_1-C_{22}-alkyl, C_3-C_8-cycloalkyl, and substituted C_3-C_8-cycloalkyl; R_{10} and R_{11} collectively may represent a divalent group forming a ring with the nitrogen atom to which they are attached;

L_1 is a divalent linking group selected from the group consisting of C_2-C_{22}-alkylene, -$(CH_2CH_2$-$Y_1)_{1\text{-}3}$-CH_2CH_2-, C_3-C_8-cycloalkylene, arylene, and -CO-L_2-OC-;

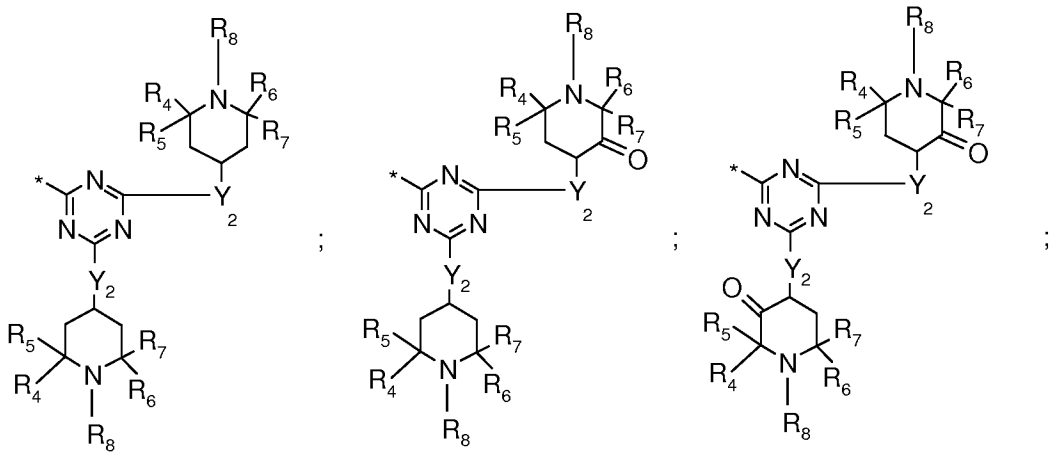
Y_2 is selected from the group consisting of -O- and -N(R_4)-;

Z is a positive integer of up to about 20;

m1 is selected from 0 to about 10;

n1 is a positive integer selected from 2 to about 12;

R_{12} and R_{13} are independently selected from the group consisting of hydrogen, C_1-C_{22}-alkyl, substituted C_1-C_{22}-alkyl, heteroaryl, aryl, and radical B wherein radical B is selected from the following structures:

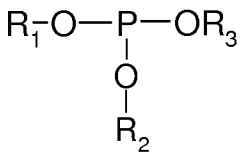


wherein * designates the position of attachment and wherein at least one of R_{12} and R_{13} is radical B; and

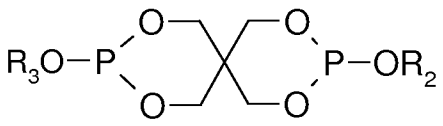
(D) at least one polycarbonate,

wherein the phosphorus-containing compound is selected from the formulas (1) - (6):

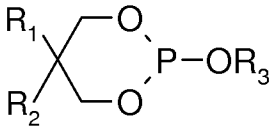
(1)

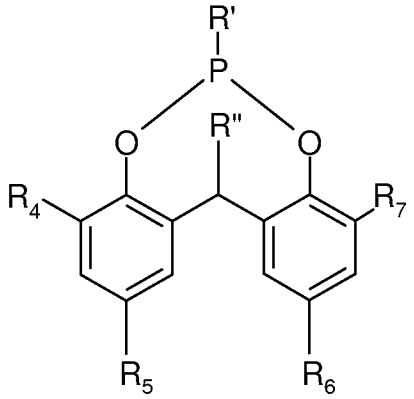


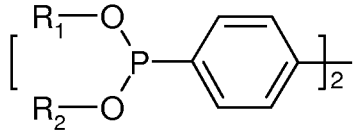
(2)

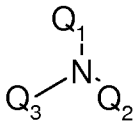


(3)



(4) 

(5) 

(6) 

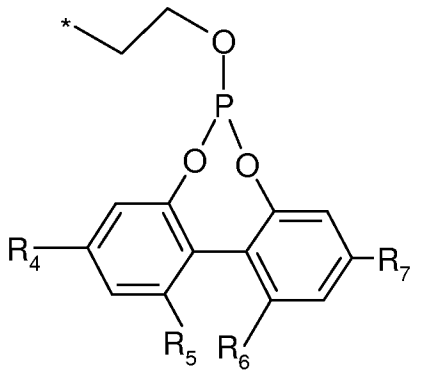
wherein

R_1, R_2 and R_3 are independently selected from the group consisting of C_1-C_{22}-alkyl, substituted C_1-C_{22}-alkyl, C_3-C_8-cycloalkyl, substituted C_3-C_8-cycloalkyl, and heteroaryl;

R' is selected from the group consisting of halogen and OR_1;

R", R_4, R_5 R_6, and R_7 are independently selected from the group consisting of hydrogen, C_1-C_{22}-alkyl, substituted C_1-C_{22}-alkyl, C_3-C_8-cycloalkyl, substituted C_3-C_8-cycloalkyl, heteroaryl, and aryl; and

each Q_1, Q_2 and Q_3 group independently is radical A, wherein radical A has the following structure:

Radical A = 

Claim 15: The polymer blend of Claim 14 wherein R_8 is hydrogen, C_1-C_{22}-alkyl, substituted C_1-C_{22}-alkyl, C_3-C_8-cycloalkyl, or substituted C_3-C_8-cycloalkyl for the hindered amine light stabilizer.

Claim 16: The polymer blend of Claim 14 wherein the at least one hindered amine light stabilizer contains an sp^3 –hybridized nitrogen atom that is not contained within the substituted piperidine ring.

Claim 17: The polymer blend of Claim 14 wherein the at least one hindered amine light stabilizer has a weight average molecular weight of greater than 1000.

Claim 18: The polymer blend of Claim 14 wherein the phosphorus-containing compound is selected from the group consisting of bis(2,4-di-t-butylphenyl)pentaerythritol diphosphite, distearyl pentaerythritol diphosphite, and bis-(2,4-dicumylphenyl) pentaerythritol diphosphite.

Claim 19: The polymer blend of Claim 18 wherein said phosphorus-containing compound is distearyl pentaerythritol diphosphite.

Claim 20: The polymer blend of Claim 18 comprising from about 0.15 to 0.35 weight percent of the phosphorus-containing compound and from 0.1 to about 0.75

weight percent of the hindered amine light stabilizer, based on the total weight of the polymer blend.

Claim 21: The polymer blend of Claim 14 wherein the polyester of component (A) has an inherent viscosity of about 0.4 to 0.8 dL/g measured at 25°C in a 60/40 ratio by weight of phenol/tetrachloroethane and comprises:

(1) diacid residues comprising about 80 to 100 mole percent of terephthalic acid residues and about 0 to 20 mole percent of isophthalic acid residues; and

(2) diol residues comprising about 40 to 100 mole percent of 1,4-cyclohexane-dimethanol residues and about 0 to about 60 mole percent of ethylene glycol residues.

Claim 22: The polymer blend of Claim 14 wherein the polyester of component (A) has an inherent viscosity of about 0.4 to 0.8 dL/g measured at 25°C in a 60/40 ratio by weight of phenol/tetrachloroethane and comprises:

(1) diacid residues comprising about 80 to 100 mole percent of terephthalic acid residues and about 0 to 20 mole percent of isophthalic acid residues; and

(2) diol residues comprising about 55 to 80 mole percent of 1,4-cyclohexanedimethanol residues and about 20 to about 45 mole percent ethylene glycol residues.

Claim 23: The polymer blend of Claim 14 wherein the polyester of component (A) has an inherent viscosity of about 0.4 to 0.8 dL/g measured at 25°C in a 60/40 ratio by weight of phenol/tetrachloroethane and comprises:

(1) diacid residues comprising about 65 to 83 mole percent of terephthalic acid residues and about 35 to 17 mole percent of isophthalic acid residues; and

(2) diol residues comprising about 80 to 100 mole percent of 1,4-cyclohexane-dimethanol residues and about 0 to about 20 mole percent of ethylene glycol residues.

Claim 24: The polymer blend of Claim 23 wherein the polyester of component (A) comprises:

(1) diacid residues comprising about 70 to 80 mole percent of terephthalic acid residues and about 30 to 20 mole percent of isophthalic acid residues; and

(2) diol residues comprising about 90 to 100 mole percent of 1,4-cyclohexanedimethanol residues and 0 to about 10 mole percent of ethylene glycol residues.

Claim 25: The polymer blend of Claim 14 wherein the polyester of component (A) has an inherent viscosity of about 0.4 to 1.2 dL/g measured at 25°C in a 60/40 ratio by weight of phenol/tetrachloroethane and comprises:

(1) diacid residues comprising at least about 80 mole percent of 1,4-cyclohexanedicarboxylic acid residues; and

(2) diol residues comprising at least about 80 mole percent of 1,4-cyclohexanedimethanol residues.

Claim 26: The polymer blend of Claim 25 wherein the polyester of component (A) comprises:

(1) diacid residues comprising about 90 to 100 mole percent of 1,4-cyclohexanedicarboxylic acid residues; and

(2) diol residues comprising about 90 to 100 mole percent of 1,4-cyclohexanedimethanol residues.

Claim 27: The polymer blend of Claim 26 wherein the polyester of component (A) comprises:

(1) diacid residues comprising about 100 mole percent of 1,4-cyclohexanedicarboxylic acid residues; and

(2) diol residues comprising about 100 mole percent of 1,4-cyclohexanedimethanol residues.

Claim 28: A polymer blend comprising a mixture of:

(A) at least one polyester having an inherent viscosity of about 0.4 to 1.2 dL/g measured at 25°C in a 60/40 ratio by weight of phenol/tetrachloroethane and comprises:

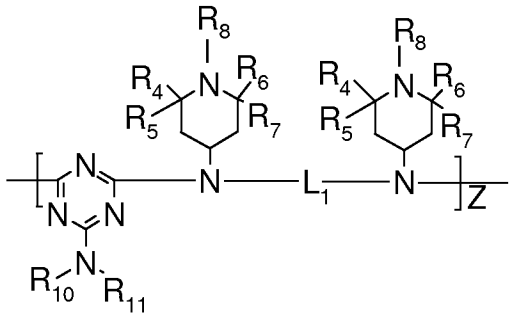
(1) diacid residues comprising at least about 50 mole percent of terephthalic acid residues, cyclohexanedicarboxylic acid residues or a mixture thereof; and

(2) diol residues comprising at least about 50 mole percent of ethylene glycol residues, cyclohexanedimethanol residues, or a mixture thereof;

wherein the total mole percentages of diacid residues is 100 mole percent and the total mole percentages of diol residues is 100 mole percent; and

(B) about 0.1 to 0.5 weight percent of at least one phosphorus-containing compound selected from the group of bis(2,4-di-t-butylphenyl)pentaerythritol diphosphite, distearyl pentaerythritol diphosphite, and bis-(2,4-dicumylphenyl) pentaerythritol diphosphite, based on the total weight of the blend;

(C) about 0.1 to 1.0 weight percent of at least one hindered amine light stabilizer based on the total weight of the composition having the formula:

(12) 

wherein R_4= R_5= R_6= R_7= R_8=methyl, (R_{10})(R_{11})N- collectively represent morpholino, L_1 is C_1 to C_6 alkylene, and Z is 1 to 6; and

(D) at least one polycarbonate.

Claim 29: The polymer blend of Claim 28 comprising from about 0.15 to 0.35 weight percent of the phosphorus-containing compounds and from 0.1 to about 0.75 weight percent of the hindered amine light stabilizer, based on the total weight of the polymer blend.

Claim 30: The polymer blend according to Claim 28 wherein the polyester of component (A) comprises:

(1) diacid residues comprising about 80 to 100 mole percent of terephthalic acid residues and about 0 to 20 mole percent of isophthalic acid residues; and

(2) diol residues comprising about 55 to 80 mole percent of 1,4-cyclohexanedimethanol residues and about 20 to 45 mole percent of ethylene glycol residues;

wherein the total of the diacid residues is equal to 100 mole percent and the total of the diol residues also is equal to 100 mole percent.

Claim 31: The polymer blend according to Claim 28 wherein the polyester of component (A) comprises:

(1) diacid residues comprising about 70 to 80 mole percent of terephthalic acid residues and about 30 to 20 mole percent of isophthalic acid residues; and

(2) diol residues comprising about 90 to 100 mole percent of 1,4-cyclohexanedimethanol residues and about 0 to 10 mole percent of ethylene glycol residues;

wherein the total of the diacid residues is equal to 100 mole percent and the total of the diol residues also is equal to 100 mole percent.

Claim 32: The polymer blend according to Claim 28 wherein the polyester of component (A) comprises:

(1) diacid residues comprising at least about 90 mole percent of 1,4-cyclohexanedicarboxylic acid residues; and

(2) diol residues comprising at least about 90 mole percent of 1,4-cyclohexanedimethanol residues;

wherein the total of the diacid residues is equal to 100 mole percent and the total of the diol residues also is equal to 100 mole percent.

Claim 33: The polymer blend of Claim 28 wherein said phosphorus-containing compound is distearyl pentaerythritol diphosphite.

Claims 34-67 (canceled)

Claim 68: The polymer blend of claim 1 wherein the polycarbonate is derived from bisphenol A.

Claim 69: The polymer blend of claim 5 wherein the polycarbonate is derived from bisphenol A.

Claim 70: The polymer blend of claim 14 wherein the polycarbonate is derived from bisphenol A.

Claim 71: The polymer blend of claim 28 wherein the polycarbonate is derived from bisphenol A.

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.